If you have trouble in discovering the cause of a short circuit proceed as follows. Remove the train and all other equipment from the track and make sure that a piece of metal or Christmas tree tinsel is not touching the rails. See that all sections of track fit tightly. Then connect one wire from transformer to an outside rail and brush the end of the other transformer wire across the center rail. If the track is perfectly insulated no sparking will occur at the place where the wire touches the rail, but if it is short-circuited, sparks will appear.

To locate the short-circuited section, disconnect one section of track at a time and apply the wires to the remaining sections as explained above. When the defective section is removed, the sparking will stop.

MOTOR TROUBLE SHOOTING

If your train refuses to run, first make sure that the transformer is plugged in and that you are getting current from the transformer output terminals. Then see that all connections on transformers and track are correct and firmly fastened. See that there are three steel pins inserted at the end of each section of track.

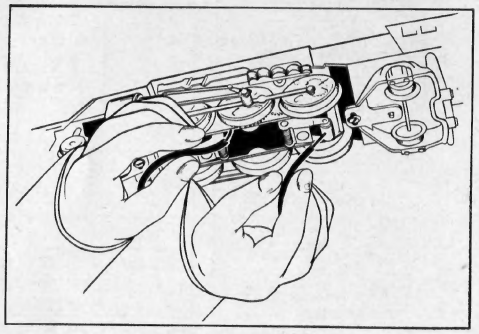

Figure 84.—How to Test Locomotive Motor. Locomotive Should Be Erect

If train still does not run, disconnect the two transformer wires from track. Prop locomotive right side up so that wheels are free to turn. Touch one of these wires to any unpainted part of the motor frame. With the other wire touch the contact shoe which collects the current from the center rail of the track. If motor still does not operate, it may be that the reversing unit is in neutral position. If the E-Unit is in neutral position, the locomotive will not run, although the locomotive headlights will be on. Try the above procedure with different adjustments of the reversing unit lever.

If the wheels move very slowly, cleaning and lubricating the motor may be all that is necessary to restore original power.

If motor starts and stops, or if wheels do not revolve, look for loose connections. See if the carbon brushes make good contact with commutator. Clean the commutator as described in a previous section.

If the wheels revolve freely there is nothing wrong with the locomotive motor. The trouble may be that the contact shoe rollers do not have enough tension to make proper contact with the center rail. If contact rollers appear to be badly worn, have them replaced at the nearest Service Station.

LIONEL SERVICE STATIONS

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factory seal of approval

LIONEL Products are guaranteed against defects in material and workmanship to the extent that if any such defective article is returned to the Lionel Service Department or to any Lionel Authorized Service Station within a year of the date of purchase it will be repaired or replaced.

If any of your equipment needs servicing you may send it either to the Factory Service Department or to any Lionel Approved Service Station.

Although the Lionel Approved Service Stations listed in the following pages are independently owned and operated, each has been carefully checked by The Lionel Corporation for reliability. These Service Men are experts and most of them have been adjusting and repairing Lionel equipment for many years. Lionel Authorized Service Station approval is not permanent but has to be renewed from year to year to assure continuing high standard of service.

In addition, The Lionel Corporation maintains two large Service Stations of its own. One is at 15 East 26th Street, New York 10, New York, and the other is at 1460 Chestnut Avenue, Hillside 5, New Jersey.

The Lionel Corporation assumes no responsibility, financial or otherwise, for material left or work done by privately-owned Lionel Approved Service Stations. Any complaints brought to our attention will be quickly investigated.

For good operation of your equipment, at all times, please read the instruction booklet carefully.

When returning articles to service either to the Lionel Service Department or to any authorized Service Station, please send only those articles which you believe to be inoperative. There is no need to return the complete outfit when the trouble is in the locomotive only.

THE LIONEL CORPORATION — SERVICE DEPARTMENT

1460 CHESTNUT AVENUE HILLSIDE 5, NEW JERSEY